

MANFRED T. REETZ ET AL.
USSN 09/463,494
RESPONSE TO FINAL REJECTION DATED APRIL 7, 2003
AMENDMENT OF MARCH 8, 2004

CONDITIONAL PETITION FOR EXTENSION OF TIME

If entry and consideration of the amendments above requires an extension of time, Applicants respectfully request that this be considered a petition therefor. The Commissioner is authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-1263.

REMARKS

Applicants respectfully request reconsideration and allowance of this application in view of the amendments above and the following comments.

At the outset, Applicants note that the cover page of the final rejection indicates a drawing objection. Formal drawings were filed on September 8, 2003.

Claim 39 was rejected under 35 USC § 112, second paragraph, as being indefinite. In response, Applicants have canceled claims 39-41 in favor of new claims 42-47. The Examiner objected to the term "optionally" as it appeared in claim 39, and was also a part of claims 40 and

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41 by virtue of their dependence on claim 39.

Since step (c) of claim 39 was indicated as being "optional," a person skilled in the art would have understood that this step (c) either was to be performed or was not to be performed. New claims 42-44 cover the situation wherein step (c) is not performed. New claims 45-47 cover the situation wherein step (c) is performed. Applicants do not believe that new claims 42-47 introduce any new matter. Collectively, new claims 42-47 cover the same scope as previous claims 39-41. Accordingly, the replacement of claims 39-41 by claims 42-47 is not believed to be a narrowing of the claim protection sought, which narrowing might raise issues of the availability of the doctrine of equivalents. Clearly, the changes made were for clarification purposes only. Therefore, Applicants submit that the new claims are entitled to the full range of equivalents.

In view of the foregoing, Applicants respectfully submit that the Examiner would be fully justified to reconsider and withdraw this rejection. An early notice that this rejection has been reconsidered and withdrawn is earnestly solicited.

Claims 39-41 were rejected under 35 USC § 103(a) as being obvious over Mannesse et al. ("Mannesse"), *Biochem.*, 34: 6400-6407 (1995), in view of Williams et al. ("Williams"), U.S. Patent No. 6,153,745; Zhou et al. ("Zhou"), *Nuc. Acids Res.*, 19: 6052 (1991); Leung et al.

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("Leung"), *J. Meth. Cell Mole. Biol.*, 1: 11-15 (1989); Cadwell et al. ("Cadwell"), *PCR Meth. Appl.*, 2: 28-33 (1992); or Shinkai et al. ("Shinkai"), *J. Biochem.*, 120: 915-921 (1996).

Claims 39-41 were also rejected under 35 USC § 103(a) as being obvious over Mannesse in view of Stemmer, *PNAS*, 91: 10747-10751 (1994); or Zhang et al. ("Zhang"), *PNAS*, 94: 4504-4509 (1997).

In response to *both* prior art rejections, Applicants point out that a key to the Examiner's two rejections is his reading of Mannesse as teaching "the value of mutating hydrolase genes to study *stereoselectivity*." Although Mannesse did mutate hydrolase genes, Mannesse did *not* use the mutated hydrolase genes to study *stereoselectivity*. Mannesse's only use of the mutated hydrolase genes was to study *enzyme activity*.

Further on this point, Mannesse conducts *two* separate lines of experimentation. In a first line of experiments, Mannesse took a *wild-type* cutinase from *Fusarium solani pisi* and used this wild-type enzyme to hydrolyze certain triglyceride analogues. Using the results of this first line of experiments, Mannesse was able to determine the effect of different triglyceride analogues on the enzyme activity and enantioselectivity *of the wild-type cutinase*.

Then, in a second line of experiments, Mannesse prepared a series of cutinase mutants.

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As depicted in Mannesse's Figure 7, and as described in the accompanying text, Mannesse determined only the *enzyme activities* of these cutinase mutants. At no point did Mannesse ever study or suggest the use of these cutinase mutants to study stereoselectivity.

Consequently, the basic premise of this rejection is incorrect, i.e., Mannesse does not, in fact, teach the value of mutating hydrolase genes to study stereoselectivity. Accordingly, even assuming, merely for the sake of argument, that the Examiner is correct about what the secondary references teach, the combination of references still would not make out a *prima facie* case of obviousness. There still is nothing of record that teaches or suggests that directed evolution can be used to prepare and identify mutant hydrolases having improved stereoselectivity or regioselectivity properties, as presently claimed.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw both prior art rejections. An early notice that both prior art rejections have been reconsidered and withdrawn is earnestly solicited.

Applicants believe that the foregoing constitutes a bona fide response to all outstanding objections and rejections.

Applicants also believe that this application is in condition for immediate allowance.

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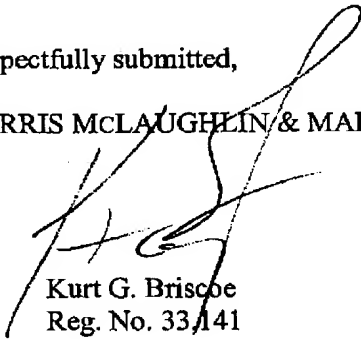
However, should any issue(s) of a minor nature remain, the Examiner is respectfully requested to telephone the undersigned at telephone number (212) 808-0700 so that the issue(s) might be promptly resolved.

Early and favorable action is earnestly solicited.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the foregoing Amendment under 37 CFR § 1.116 (10 pages total) is being facsimile transmitted to the United States Patent and Trademark Office on the date indicated below:

Date: March 8, 2004

By:


Kurt G. Briscoe